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ABSTRACT

Construction Services is an innovative response to a chronic construction-remodeling problem at Northern Arizona State University. It is an in-house facilities maintenance department designed to address a variety of needs: prevention of construction or remodeling done by individual staff or faculty members without regard for applicable codes; prevention of resultant loss of continuity in overall planning due to inaccurate knowledge of existing facilities; and prevention of frequent delays in having remodeling work done through several individual departments rather than one. Staff includes a supervisor, two estimators, a computer assistant, a field supervisor, two lead people, and 15 other staff members. Emphasis is on customer satisfaction. The process begins with a call or work order, followed by a site inspection and estimate, or bids by outside contractors, required by law if the estimate is for over \$10,000. Estimates are computer-driven and require 20-30 minutes to enter and print. Once data are entered, the program can generate up to 14 reports, including a materials list, scheduling goals, and final billing information. Followup is with a phone call with 5 to 7 working days to track the status of authorization. Acquisition of materials, daily progress audits, and billing follow. The program has been highly successful. Contains four references. (MSE)

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Construction Services

at

Northern Arizona University

Addressing construction-remodeling
needs in a creative, innovative way
(Starting date: October, 1989)

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AASCU/ERIC Model Programs Inventory Project

The AASCU/ERIC Model Programs Inventory is a two-year project seeking to establish and test a model system for collecting and disseminating information on model programs at AASCU-member institutions--375 of the public four-year colleges and universities in the United States.

The four objectives of the project are:

- o To increase the information on model programs available to all institutions through the ERIC system
- o To encourage the use of the ERIC system by AASCU institutions
- o To improve AASCU's ability to know about, and share information on, activities at member institutions, and
- o To test a model for collaboration with ERIC that other national organizations might adopt.

The AASCU/ERIC Model Programs Inventory Project is funded with a grant from the Fund for the Improvement of Postsecondary Education to the American Association of State Colleges and Universities, in collaboration with the ERIC Clearinghouse on Higher Education at The George Washington University.

Abstract

This paper will cover the needs that had to be addressed in establishing the facilities maintenance in-house Construction Services department. The needs include the construction or remodeling done by individual staff/faculty members with no regard for the various applicable codes, the resultant loss of continuity in overall planning due to inaccurate knowledge of existing facilities, and the frequent delays experienced in having remodeling work done through several individual departments rather than through one. The structure of this department will be examined, showing a supervisor, two estimators, a computer assistant, a field supervisor, two lead people, and fifteen other staff members. Furthermore, the bidding process, work scheduling, materials acquisition and delivery, daily journal entries for labor and materials costs, final walk-through, billing and customer follow-up will all be discussed. The limitations imposed by state law on in-house construction will be cited. The use of computerized bidding and report generation will be highlighted. Results in terms of code compliance, asbestos safety, and customer satisfaction will be itemized, as well as recommendations for our future and for any institution interested in adopting this program.

Introduction

Construction Services is a creative and innovative response to a chronic construction-remodeling problem that Northern Arizona University has experienced. The structure and daily functioning of Construction Services is focused on customer satisfaction, high productivity, and quality results for each and every step in the process. The outcome has been and will continue to be at and beyond expectations. Our vision (1) of the future and its concomitant direction are both clear and energetically pursued.

Background

"Increasing enrollment is the most apparent problem of state universities and colleges. Expansion has been a constant characteristic of American higher education. Throughout American history, enrollments have risen much more rapidly than the population as a whole. For the near future, this trend will certainly continue." (2) This was true in 1964 and is especially so for Northern Arizona University in 1990. Our enrollment has swollen greatly to approximately 16,000 students, while additions to our physical resources have inevitably lagged. Laboratory space, living accommodations, and offices are strained. Remodeling of existing structures has resulted. However, the current remodeling differs greatly from that of the past. Then, individual staff/faculty members could and did take it upon themselves to design and build offices or other spaces, occasionally with little or no regard to building, electrical plumbing, and fire codes. They were always trying to save time or money or both by doing the work themselves. Commendable goals, to be sure, but generally not in compliance with applicable codes. This approach has compromised normal building practices. Some remodeling done in the past was done in-house by using a variety of facilities maintenance departments, for example, from carpentry to electrical to plumbing back to carpentry, and finally to the paint shop. Coordinating this

typical sequence generally resulted in delayed success over a protracted time period. Eventually, the work was accomplished, but not with the timeliness the customer wanted or needed. Furthermore, the Facilities Planning Department, charged with planning future building needs based on current conditions, could not rely on their drawings as truly representative, since this misguided construction has not been communicated to them. The Northern Arizona University Physical Resources facilities maintenance Department, charged with the maintenance of facilities, inherited these construction surprises and often had to redesign or rebuild. The problem of this "renegade" construction, as it is not-so-affectionately called, had to stop. Herein lies the beginning of Construction Services. The goals of Construction Services are the following: provide an in-house construction service that would comply with all applicable codes, that would accomplish quality work in a timely fashion, and that would inform Facilities Planning of all construction activities. Thus, Construction Services began in October of 1989. The University benefitted immediately, because all departments were informed to cease and desist all unauthorized remodeling or construction activities, and the departments benefitted, because they now could get the work they wanted done when they wanted or needed it.

Description

Construction Services primary focus is customer satisfaction, staying close to the customer (3) from the first board to the last coat of paint. Our involvement with the customer begins with a call or a work order from them seeking an advice or an estimate. Our follow-up is a site inspection with them to determine what they want. At times they know only in a general way their desires but are unsure how to achieve them. Here is where we provide details based on our expertise that clarify the situation for them. With their goals and targeted completion date in focus, we then prepare an estimate. In Arizona, any estimate over \$10,000 is beyond Physical Resources in-house legislated ability to respond. That work must be bid to an outside contractor.

Our estimates are all computer driven and generally require about twenty to thirty minutes to enter and print. Once pertinent data (like room length, width, and height) are entered, we have the ability to generate fourteen different reports, including a list of materials, to goals in terms of hours for our field lead person to final billing information covering all labor and materials costs. The estimate is sent or delivered to the customer for capital projects authorization.

Our follow-up consists of a phone call within five to seven working days to track the status of the customer's acquisition of proper authorization. Once the work is authorized, our next step depends on their targeted completion date. We will acquire the materials necessary and prepare them for delivery to the worksite and schedule accordingly. Daily audits of progress are conducted to monitor the labor goals generated with the estimate. Final billing is greatly assisted by the estimating program, for it has spreadsheet capabilities giving us a complete ledger of all costs involved.

When a customer does not provide us with authorization in the beginning, we call. We determine whether or not our bid was too high relative to an outside vendor, whether we missed an estimated deadline, or whatever the problem might have been. Sometimes they

simply have to wait until they have additional funding. The point, of course, is that we stay in touch with the customer. Furthermore, we do so after the work is completed to determine if they are satisfied with all aspects of our work.

Our staff is the key to our success. We not only hire people with special skills, but also with overall abilities. We hire and keep people who believe in teamwork. We cross-train our staff so that we can be flexible in responding to our customers needs. Safety training is scheduled, and we take advantage of vendors willing to provide training on site on new materials and technologies. Phone communication is always friendly and professional. Follow-up is critical, and what we need for success is part of our daily morning meetings. The University has helped by financing this effort for no more than three years, at which time we should be self-supporting. Our costs to date have been high because we are an emerging organization and because most of our costs are fixed rather than variable. Construction Service is locally funded, so the money we generate stays in the department to meet costs.

Results

In October of 1989 Construction Services had a staff of three. Today, seven months later, we have a staff of twenty-two. The service we provide, the attitude we display, and the productivity we deliver have not been available before. Compliance with all relevant codes is standard practice, and no work is initiated without first checking for asbestos. Construction Services has but one customer, the University, and it has responded favorably. Northern Arizona University is changing and growing in new directions with new visions. (4) Construction Services is an active embodiment of this growth and vision. Our basic philosophy is take each and every thing we do one step further - one step further in professional communication, quality workmanship, setting and meeting goals, using the latest technologies and advancements when beneficial, and directing our efforts to the focus of customer satisfaction. We continue and expect to learn as we proceed. Our results to date indicate success in that we have accomplished 55 projects valued at \$78,955 since October 1989.

Recommendations

Stay the course. Construction Services remains vigilant in its commitments to growth and vision and plans to continue with our current direction. We invite inquiries from any interested party and are willing to provide outlines of rather detailed procedures and guidelines for establishing a construction service department of your own.

Notes

1. Visioning: Management Fad or Proven Concept by Alan Gilburn and Martha Spice, M. Ed. pages 22-26, Facilities Manager, volume 5, no.4 (winter, 1989)
2. State Colleges and Universities, by John T. Wahlquist and James W. Thornton, Jr. The Center for Applied Research in Education, Inc. pg.20 1964
3. In Search of Excellence, by Thomas J. Peters and Robert H. Waterman. Harper & Row, New York, 1982. pgs. 157-182
4. Innovation and Change In State Colleges and Universities, The G. Theodore Mitau Award, 1988, "Responding to Changing Educational Needs," American Association of State Colleges and Universities, pgs. 5-6